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# Station Groups for Execution Resource Sharing

8 ML Active Stations  
 8 DEE Active Stations  
 2 ML columns  
 2 DEE columns  
 4 sharing groups

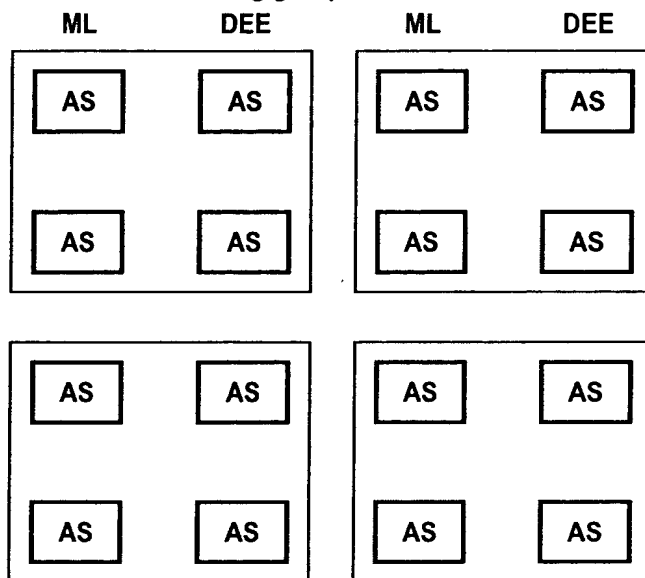


FIG. 1

## High-level block diagram

8 ML Active Stations  
 8 DEE Active Stations  
 2 ML columns  
 2 DEE columns  
 4 sharing groups

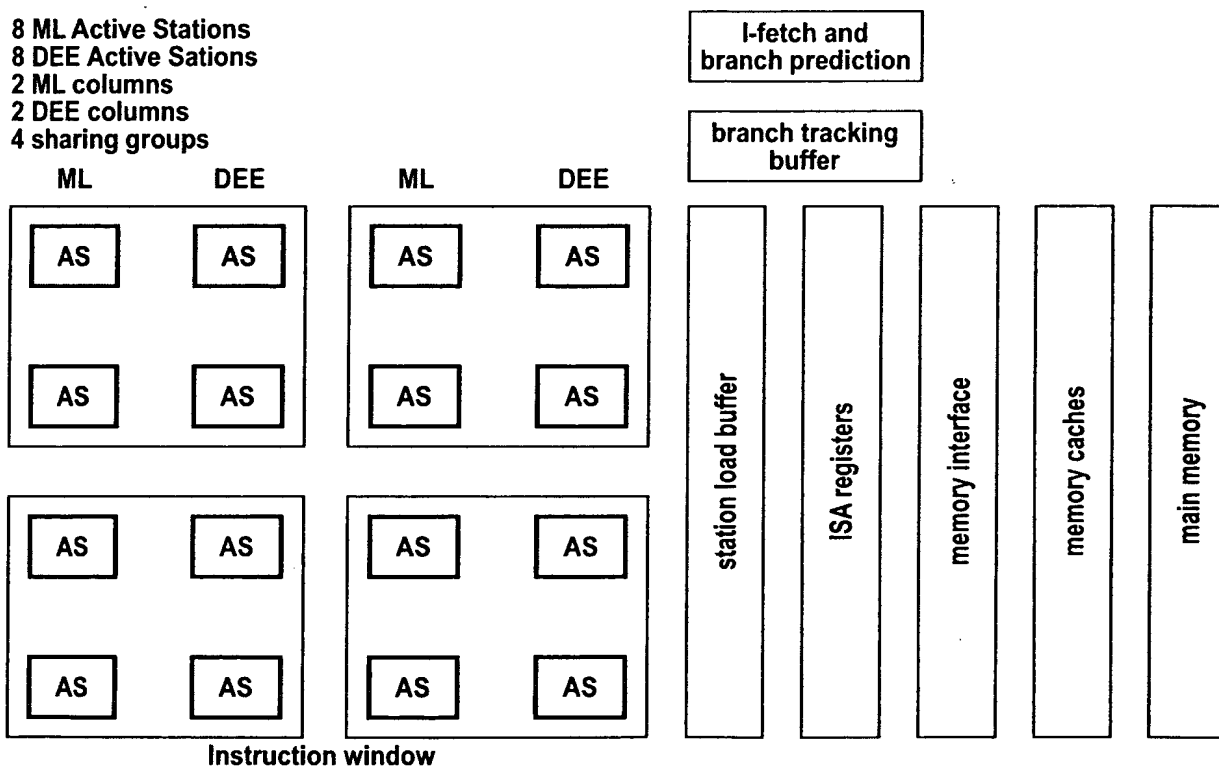


FIG. 2



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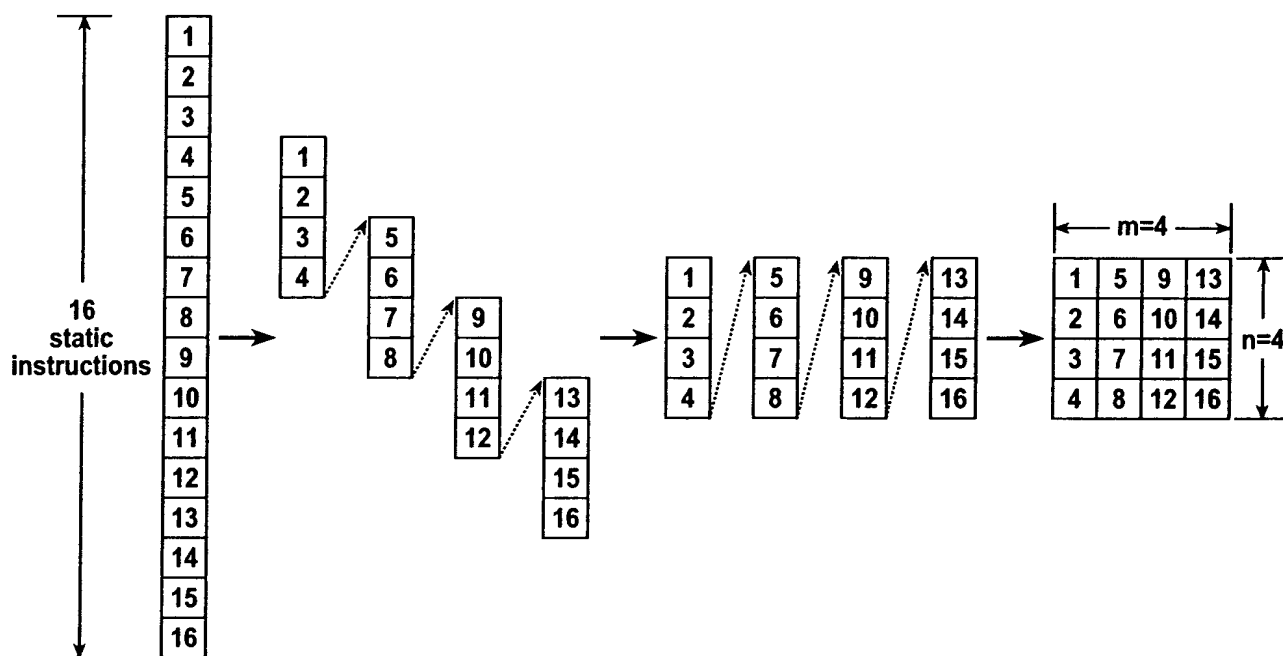
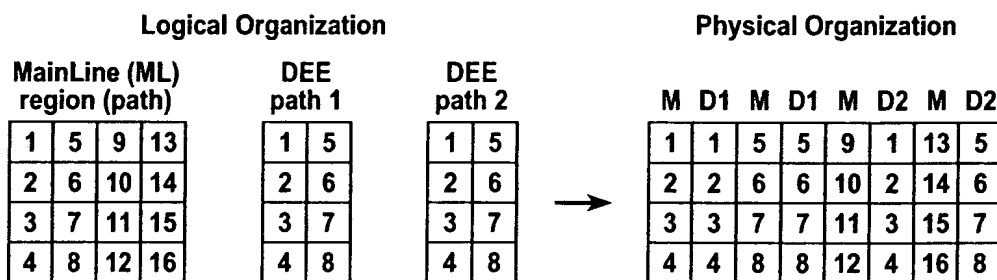


FIG. 3



Instruction Window (IW), with Disjoint Eager Execution (DEE)  
 - each square is an active station -

FIG. 4



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### ISA Architectural Register Files

8 ML Active Stations  
 8 DEE Active Stations  
 2 ML columns  
 2 DEE columns  
 4 sharing groups

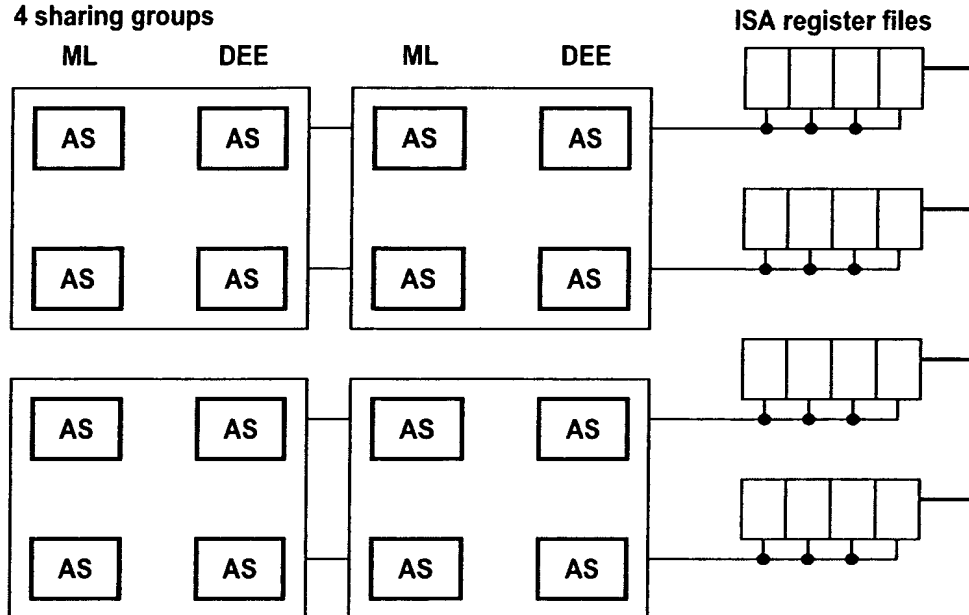


FIG. 5

### Memory Interface and Buffers

8 ML Active Stations  
 8 DEE Active Stations  
 2 ML columns  
 2 DEE columns  
 4 sharing groups

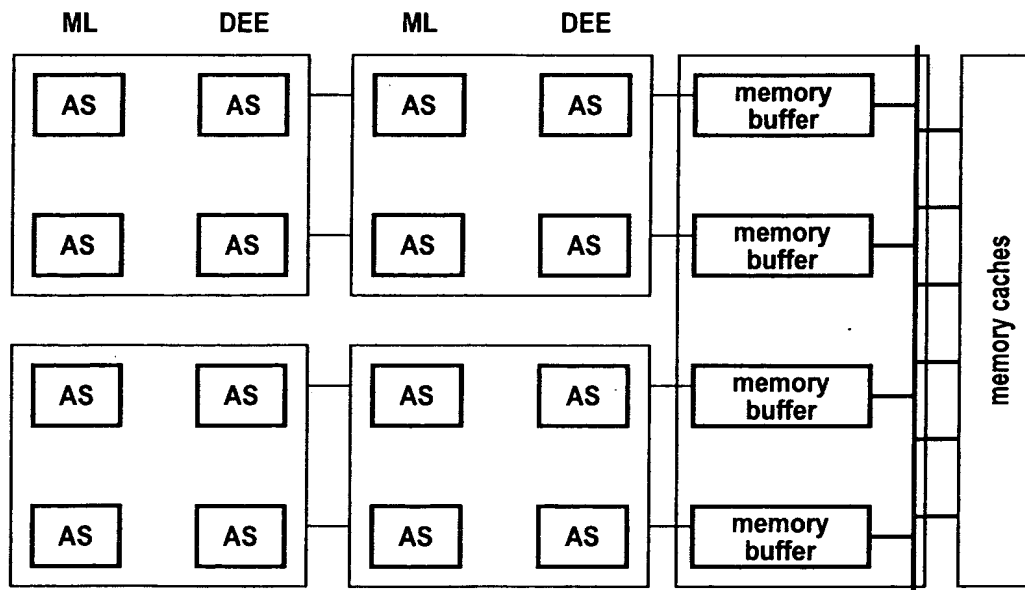


FIG. 6



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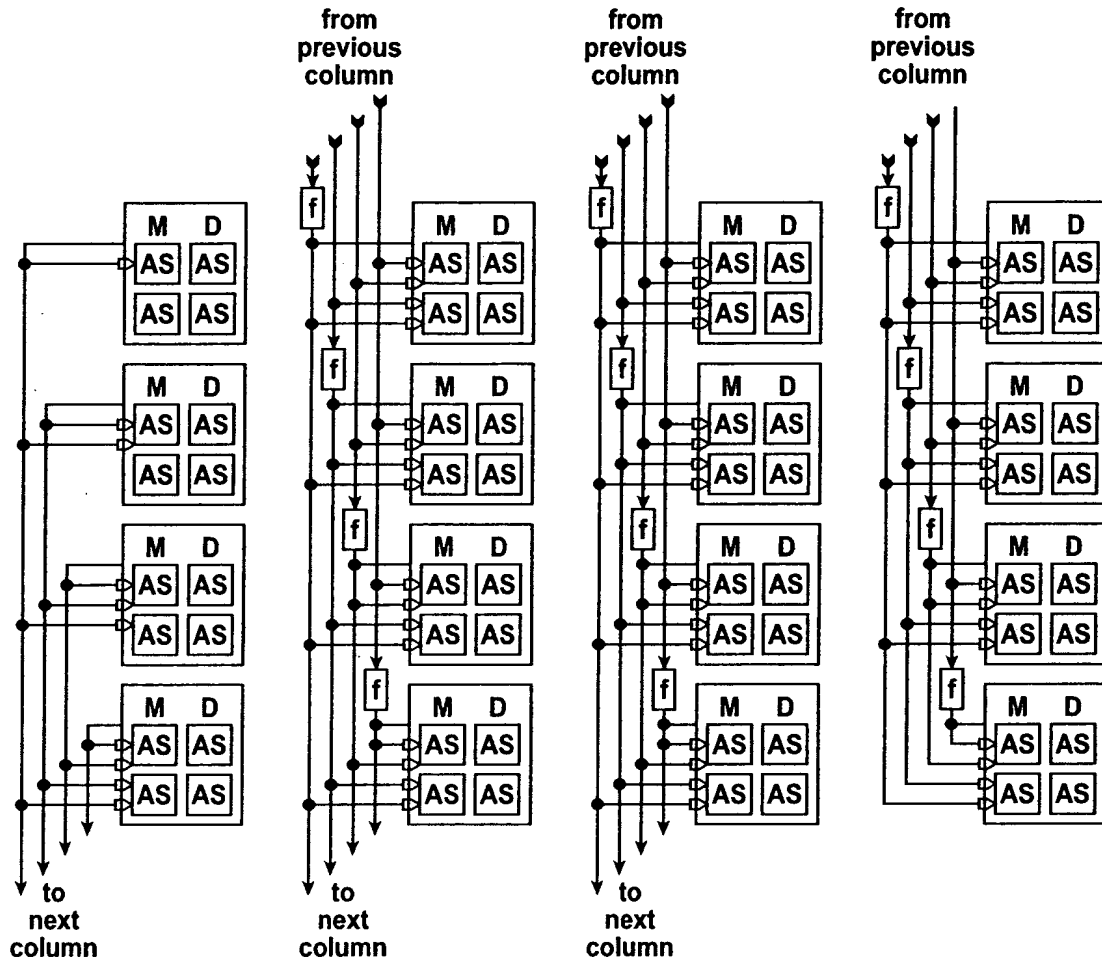


FIG. 7

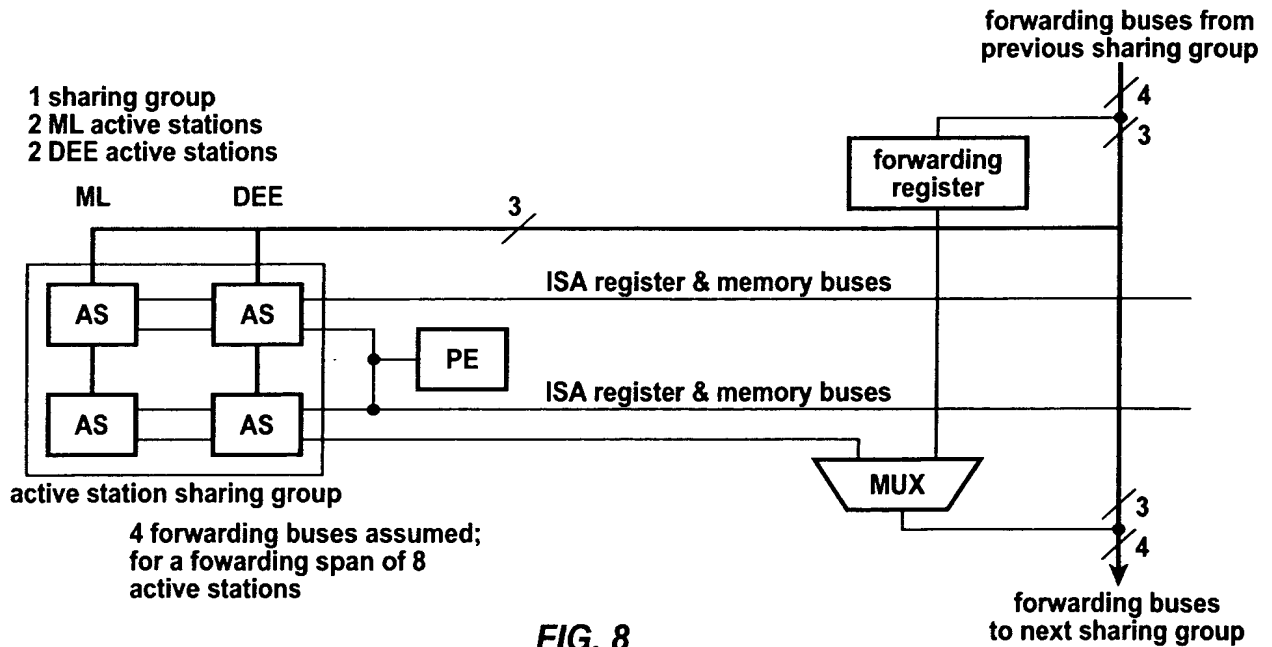
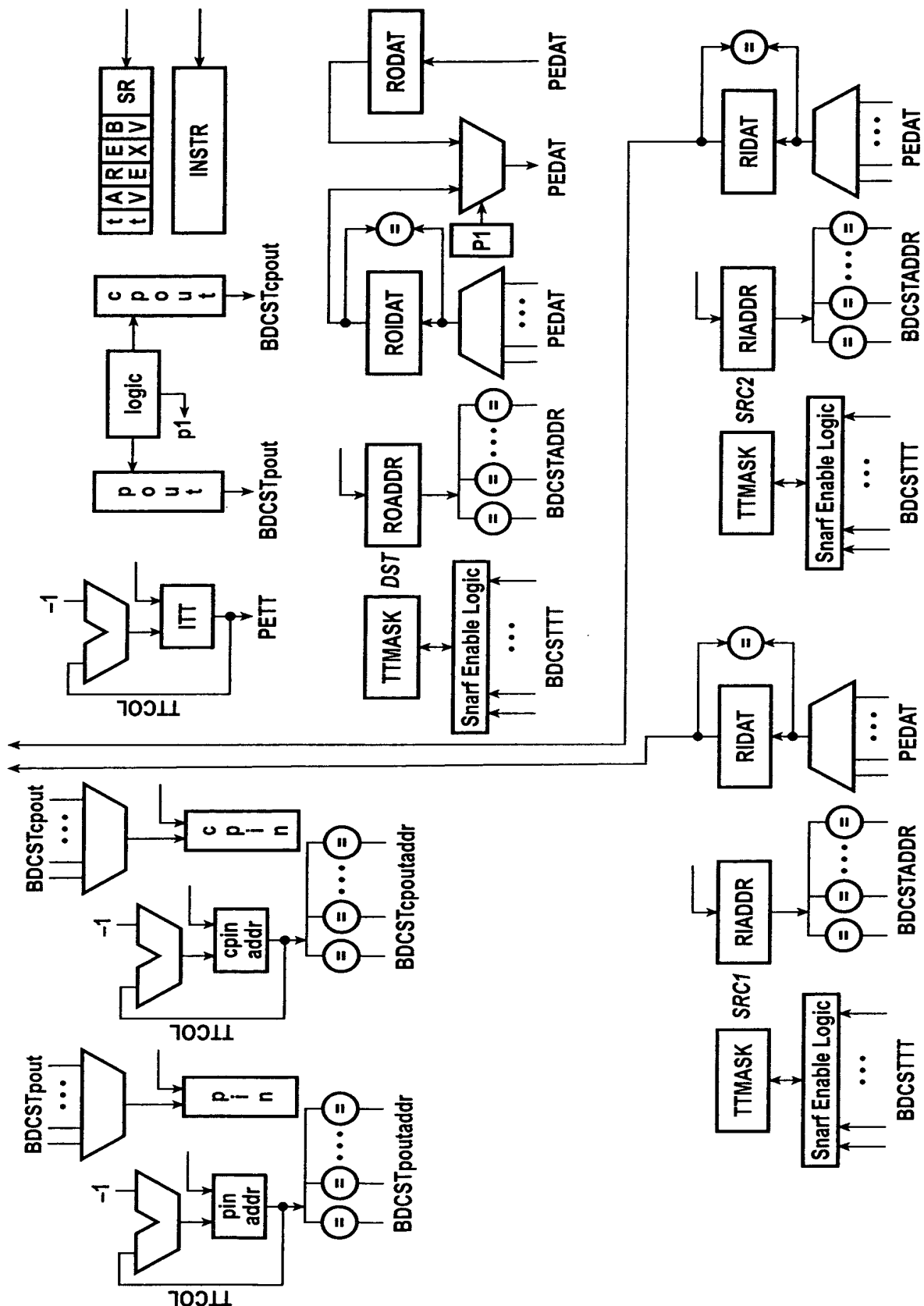


FIG. 8





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### ISA Register File Detail

two register files shown;  
 two registers shown per  
 register file

register transfer and  
 column contention buses  
 for each register

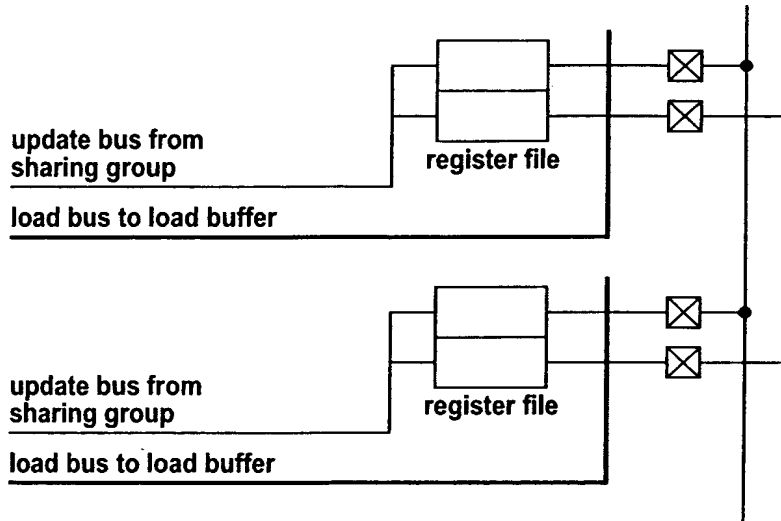


FIG. 10

		time							instruction	an 'X' marks an execution
00	X									
10	X									
20	X									
30	X	X								

FIG. 11

		time							instruction	an 'X' marks an execution
00	X									
10	X									
20			X							
30		X		X						

FIG. 12

		time							instruction	an 'X' marks an execution
00		X								
10	X		X							
20	X									
30										

FIG. 13



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		time						
		0	1	2	3	4	5	6
instruction	00		X				X	
	10	X		X				X
	20				X			
	30		X	X		X		

an 'X' marks an execution

FIG. 14

		time						
		0	1	2	3	4	5	6
instruction	000	X						
	010	X		X				
	020	X			X			
	030	X				X		

an 'X' marks an execution

FIG. 15

		time						
		0	1	2	3	4	5	6
instruction	00	X						
	10	X	X					
	20	X		R				
	30	X						

an 'X' marks an execution,  
an 'R' marks a relay operation

FIG. 16

		time						
		0	1	2	3	4	5	6
instruction	00			X				
	10				X			
	20	X				R		
	30		X				X	

an 'X' marks an execution,  
an 'R' marks a relay operation

FIG. 17

		time						
		0	1	2	3	4	5	6
instruction	00	X				X		
	10	X	X				X	
	20	R		D				B
	30	X						

an 'X' marks an execution,  
an 'R' marks a relay operation,  
a 'B' marks a broadcast-only operation,  
a 'D' marks an execution in a DEE path

FIG. 18